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THE DISINFECTION OF STABLES.

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By disinfection is meant the destruction of the germs of infectious diseases. Negligence in properly disinfecting stalls and stables where animals affected with contagious diseases have been, is frequently the cause of a reappearance of the disease.

Many failures to eradicate tuberculosis from dairy herds by the repeated application of the tuberculin test and the prompt removal of all reacting animals, are due to the fact that the stables were not disinfected. It is a universally accepted fact that herds of cattle, when kept closely together in large stables, are the most liable to be badly infected with tuberculosis. This is especially marked when the stables have been in constant use for a number of years. Under such conditions the dissemination of tuberculosis is very rapid, and continues after all diseased animals have been removed and other cattle substituted. Since bovine tuberculosis is so widely disseminated, most dairies in which the tuberculin test is not frequently applied become infected. There can be no question but that frequent disinfection retards its spread, and thorough disinfection of the stable at least once a year is a precaution which should be taken by all.

The bacilli of glanders will remain alive under natural conditions in stables for four months; hence a stable in which a glandered animal has discharged virus will retain its infectiousness for a long time after the animal has been removed, provided it has not been disinfected. There are many other contagious diseases of animals which necessitate thorough measures of disinfection in order to make eradication certain.

In view of the importance of disinfection in preventing the spread of disease, the following directions are recommended for use in combating infections:

1. *Permit the Entrance of a Plentiful Amount of Light.*—The bacteria of tuberculosis and most other disease-producing germs are destroyed by the direct rays of the sun within a short time. They are destroyed

by less intense light more slowly, and will live for long periods in dark places. There are numerous other advantages in having plenty of light in a stable that are not necessary to mention here.

2. *Clean the Stable Thoroughly.*—Cleanliness is an important adjunct to the work of disinfection. The cleaning of the stable includes: (a) removal of manure; (b) removal of piles of fodder; (c) removal of rotten woodwork and loose boards, especially of the floor; (d) sprinkling with a disinfectant, to lay the dust, and sweeping of the ceilings, walls, and floor; (e) removal of dried accumulations about mangers, floors, and drains. The practice of washing the floors and ceilings with water before applying the disinfectant has, in most instances, the disadvantage that the water carries the micro-organisms to be destroyed into cracks where they will not be affected by the later application of the disinfecting solution.

3. *Apply Chemical Disinfectants.*—After the stable has been treated as recommended above, it is ready for the application of chemical disinfectants. These are substances which poison the germs. There are many of them. Some are far more efficient than others. Among the most active are carbolic acid and corrosive sublimate.

Carbolic acid, when pure, is crystalline. It readily assumes the liquid state in the presence of a little water. As usually dispensed it consists of 95 parts of pure acid and 5 parts of water. For use as a stable disinfectant this should be mixed with water in the proportion of one to twenty, or one pint of acid to two and one-half gallons of water. The “crude carbolic acid, saturated solution” is much weaker than the above, and should not be diluted with water.

Bichloride of mercury, or *corrosive sublimate*, is a most active germicide, and has the advantage over carbolic acid for use in a dairy stable, in being odorless. This substance is poisonous and must be used with great care. Before it is applied it must be dissolved in water, in the proportion of one part to one thousand. One ounce of corrosive sublimate dissolved in eight gallons of water makes a solution of the right strength. In making the solution the corrosive sublimate should be dissolved in one gallon of hot water and then mixed with enough cold water to make eight gallons. It corrodes metal, hence the solution should be kept in a wooden tub or earthenware crock.

There are many other efficient disinfectants, but the two above described are cheap and obtainable at any drug-store. In the employment of commercial disinfectants, it is necessary also to know the destructive value of the solutions for the organisms to be destroyed. There are many so-called disinfectants that, in the strength of the solutions recommended, are inefficient.

Disinfectants can not destroy germs with which they do not come in contact. The disinfectant should be applied in sufficient quantity to thoroughly saturate the surfaces, including the adhering particles of dirt. In the application of the disinfectant it is well to use a broom and thoroughly scrub the floor and lower parts of the walls. The solution can be applied to the ceilings and upper parts of the side walls with a spray pump, and must be carried into every crevice and recess into which dirt can enter.

After disinfecting, whitewash the stable. Although whitewash is not an active disinfectant, in the usual meaning of the term, it is an excellent purifier and should in all cases be used in stables after they have been thoroughly cleansed and disinfected with other agents. If chlorid of lime is added to whitewash in the proportion of one pound to three gallons, the value of this application is greatly increased. It is advisable to whitewash cow stables frequently, at least once in six months, and better every three months. Hot whitewash for this purpose is better than cold.

In preparing the above directions, abstracts have been freely made from Pennsylvania Circular No. 2, by Dr. Leonard Pearson, and from "The Pathology of Infectious Diseases of Animals," by Dr. V. A. Moore.

